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expedition, was to be had in abundance by ascending the river. At the present time the knowledge of the navigation of the Straits would make it much easier and cheaper to import timber from Punta Arena than to send lumberers into the Cordillera and raft the timber down to Santa Cruz.

Near the Pebrer, on the southern shore, there is a natural salt lake or saline, which must have been overlooked by the Beagle expedition, as Mr. Darwin fixes the southern limits of salines at Port St. Julian. In the summer, and until the winter rains and snow set in, an inexhaustible supply of excellent salt can be obtained. It is at present worked only to furnish, besides the salt for home use, what is required for the annual sealing fishery; but if labour were more abundant, the salt would be found to be a valuable article of export to the Falkland Islands; the saline being situated less than half a mile from the beach, where there is good anchorage.

The river also yields abundant supplies of fish—a species of bass and others—which when cured keep well: some which had been cured over a year proved excellent. These might be profitably exported to Rio Janeiro, &c., where cured fish are always in demand.

Notwithstanding these natural advantages, Santa Cruz could hardly at this period be considered a settlement. Subsequently to my visit, two Frenchmen from Buenos Ayres proposed to try sheep farming in the valley, but with what result I have not heard. As already mentioned, the station existed as a depôt for sealing, and as a trading post, to which the Tehuelches resorted to exchange their ostrich feathers, and furs, guanaco, and ostrich skins, for tobacco, sugar, ammunition, and above all, rum. There was little or no trade going on during the absence of the schooner, as all the stores had been exhausted; but after the summer campaign some of the Tehuelches invariably resort thither, and the vicinity has always been a favourite winter quarter. The missionaries, Messrs. Schmid and Hart, endeavoured to avail themselves of this opportunity for ensuring the conversion

[Rio Santa Cruz River—Ed.]

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routine of hunting, as we made our way slowly up the valley of the Rio Chico, which was still frozen over. The weather was cold, and occasional showers of snow accompanied the strong piercing westerly winds which blew every day. The valley sometimes opened out into wide grass-covered plains, dotted with incense-bushes, then rose again in huge bare ridge and barrow-like undulations. Occasionally there occurred patches of swampy ground with frozen lagoons, and here and there open springs, the resort of numerous water-fowl. The hills on the northern side appeared bare and rugged, rising abruptly out of irregular forms, while the southern heights were lower, and presented more of the steep declivities known as barrancas, interrupted at intervals by high rugged hills of basalt, often assuming the appearance of ruined castles, closing in at the bends of the winding river. To one of these—a remarkable hill under which we were encamped on August 22, about 120 miles from Santa Cruz—I gave the name of Sierra Ventana, from a window-like opening through its peak; the Indians called it Miwaish. (See Illustration.) In many places the bases of these hills were formed entirely of a description of lava, and one of the Chilians informed me that whilst passing over a ridge, he had observed several large masses of pure iron: this, however, I was inclined to disbelieve, as although farther up the country iron ore exists in large quantities, I only observed in this part a species of ore similar to that common at Drobak, in Norway.

On one occasion, while marching, we observed smoke in our rear, which was thought to be caused either by a messenger in search of us announcing the arrival of the schooner, or else by a party of the Southern Indians who had some idea of marching north. However, no scout was sent back to discover the truth, so we remained in ignorance. On the 26th we halted, and encamped by the side of the river in a broad opening of the valley; here there was a lagoon, not completely frozen, in which grew a description of flag, of

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133 bleak appearance, the grey rocks only appearing now and then. After some hours' travelling through this dismal district in a north-west course, we emerged on a large plain at the western side, bounded by a range of hills 1,000 feet high, forming a spur of the Cordillera. The weather was stormy, and we could only catch occasional glimpses, through the driving clouds and snow-storms, of the loftier peaks of the more distant mountains. Our expedition in search of wild horses was, of course, after the recent trouble, abandoned; and forced marches, to escape the Southern Indians, in the event of their following from Santa Cruz, were the order of the day. Hunting, however, was resumed by the unwounded, and several ostriches were caught during the day. Towards evening the encampment was fixed near a lagoon, the environs of which were barren, and destitute of anything except a small low shrub which served as firewood. Although the wind was northerly, it was bitterly cold; and as I had for some days past adopted the native costume—keeping my 'store clothes' stowed away under charge of Mrs. Orkeke—I felt it exceedingly. The 6th, 7th, and 8th of September were occupied in making forced marches northward, accompanied by the usual hunting; and although both parties continued armed, and appeared to be rather suspicious of each other, things went on pretty smoothly. The country traversed on the 6th and 7th was a large arid plain, dotted with a few stunted shrubs, enclosed by the before-mentioned spur of the Cordillera on the western side, and on the east by a low
• [135] range of sandy-looking hills. The whole of this plain was strewn with small pebbles of porphyry, quartz, silicia, and obsidian; also with small pieces of silicified wood. On the 8th we crossed the spur by a pass walled on either hand with rocks of vesicular lava. Here we halted for a quarter of an hour, and every one broke off pieces of stone suitable for making hand-balls for bolas. The descent on the western side was no easy matter, the declivity being strewn with large masses of rock and loose boulders, and the wind blow-

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In the range of hills described as visible from Kaimak, there is a mine or vein of iron ore, about a mile due west from the brook, and marked by a large mass of white quartz. This is used by the Indians in the manufacture of bolas, and an excursion was made to it. We brought back numerous pieces, some of which, now in my possession, have been examined, and pronounced to be brown and magnetic iron ore. The Indians also told me that some leagues to the east of this spot a mass of iron, having, as well as could be gathered from their account, the shape of a bar-shot, lies in the middle of a barren plain, and is regarded by them with superstitious awe. Whether this be an aërolite, or has any connection with the ore on the hill side, it was not in my power to determine, for in the critical state of feeling then prevalent a visit of inspection was impracticable.

On the 22nd of October we marched a few miles, always following the line of hills, and in a northerly course. Ostrich eggs still formed the main staple of food, and furnished a diet sufficiently nutritious, but producing all the effects of a course of 'Banting.' Fortunately this day two of us killed fat pumas, some steaks off which broiled, by way of variety, were an acceptable addition to the evening meal; but from experience I should advise all travellers to boil their puma. We encamped in a small gorge in the hills, directly under a peculiarly pointed rock, which is called Yowlel, or Ship Rock, from its resemblance to a ship under sail, and is regarded with superstition by the Indians, who believe that all who endeavour to ascend it in the calmest weather will, on arriving at the summit, have their mantles blown to pieces by furious gusts of wind.

The next day—a glorious morning, after a night's rain—we proceeded in the same direction; and while waiting for the heavy baggage, in the shape of the women and children, several of us repaired to a regular racecourse—a beaten track six feet wide, extending for almost three miles, level and free from stones, though rather sandy. Here we had trials of the

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231 racers and best horses, although if a white man approaches or attempts to catch them they show signs of fear and temper. Indeed, there appears to be a sort of instinctive mutual bond between the Indians and their horses. For
232 lameness the cure most prevalent is bleeding in the fetlock with an awl; sometimes the incision is made higher up the leg, and the awl forced nearly through the horse's leg; he is then tied up for a short time, and then let go, and the cure is generally certain. Of course before the bleeding he is tied up several hours without water. The cure for sore backs, which, though rare, sometimes occur owing to an ill-made
● 135 saddle, is a species of aluminous earth, applied to the wound
232 after it has been cleansed with a knife. This earth is only found in the southern parts of the country, and it is very difficult to obtain any of this much-prized medicine from the Indians. One deposit of it is found in a cliff near Lake Viedma, so high that it can only be got at by throwing stones at the face of the cliff, and so dislodging the earth.

231 A few lines will suffice to gratify any 'horsey-doggy' friends who may be curious as to the horse-flesh and dog-shows of the Indians. The horses in use amongst the Southern Indians are, as a rule, of a hardier race than those found amongst the Northern, Araucanian, and Pampas Indians. Their general size is about fifteen hands, or indeed perhaps less, but nevertheless they are of great speed and endurance; when one takes into consideration that the weight of their riders is frequently over fourteen stone, it appears extraordinary that they should be enabled to carry them in the way they do. The horses are, of course, all of Spanish origin, but time, climate, and the different nature of the country have altered them to a considerable degree from the original race. The horses found amongst the Northern Tehuelches are, as a rule, larger than those previously mentioned, with finer heads and smaller legs; they are also extremely swift, and being bred frequently from captured wild mares, are admirably adapted

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137 We remained some days in this place, and whilst hunting in the surrounding country (where hares abounded), we observed a new description of spinous shrub with small ovate leaves and yellow flowers, resembling holly, and growing to about two feet in height. Casimiro and myself agreed to try
757 whether the leaves might not be medicinal, so a quantity were bruised and boiled: the infusion proved exceedingly bitter, reminding me of quinine, and acted as an admirable sudorific, being administered to the invalids with great success. In
133 one of our excursions we had crossed the hills and descended on a high elevated plain, concluding our hunt near a swelling eminence exactly resembling a huge 'barrow' thickly overgrown with shrubs, from which what appeared to be a saline was espied, to our great delight. Hinchel and myself being alone, and having a fat ostrich to discuss for dinner, determined to enjoy our meal by its shore, first testing the quality of the salt, a luxury which we had long been destitute of. Dismounting, we proceeded to investigate it; but to our great disappointment, after walking over every part of
● [135] it, and digging down with knives a foot below the surface, the supposed salt proved to be bitter and nauseous nitrate of soda.
132 After quitting the vicinity of the Cordillera the weather had every day become warmer, and the frosts at night much lighter: indeed whilst in Telek some warm days were experienced, although the winter season was fast approaching.
137 Near this encampment the small edible root previously described as growing in the dried-up lagoons was found in abundance, and was collected by the women and children.
[134] Cavies were plentiful in the hollows and valleys in the neighbouring hills, and even close to the encampment, but the chase of other game proved difficult, the hill sides being so strewn with stones as to render galloping a horse a
777 certainty of laming him. In this neighbourhood Hinchel pointed out a detached pinnacle of rock, much resembling that noticed at Geylum, and according to custom invoked a
135 blessing from the guardian spirit; and then he informed me

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that on the third next march we should pass a deposit of 135
yellow ore, lying to the south of the route, and that during the hunt he would show it to me. Orkeke also corroborated this statement, and I have every reason to believe that there is in that locality a deposit of iron or more probably copper ore.

As the meat of the slain horses was nearly consumed, we 133
marched the following day across a most stony, rocky, and inhospitable country, and at length arrived at a range of hills, through which ran a steep, narrow gorge. Descending through its tortuous windings, we at length arrived at a spring, the waters of which, joining with another small rivulet, flowed out, and formed a sort of marsh at the head of a large plain. From the slope of the hill bordering the ravine a fine panorama extended to the east, the entire face of the country appearing to be more uniformly undulating than the confused ranges of hills, through the intricacies of which we had been marching and hunting since leaving Geylum. In the foreground were visible distant black figures, moving with swiftness across the plain in pursuit of numerous ostriches; and away to the eastward rose a column of smoke, the cause of which was eagerly speculated on.

I am conscious that the description of this part of the 114
journey is not likely to give a very clear idea of the country traversed; and that the directions of the successive ranges, *and the general character of the ground*, are left too much to the reader's imagination; but, in deprecation of criticism and censure, it is pleaded that I was under the impression that this district had been traversed, and accurately surveyed and described, by a *savant* employed by the Argentine Government; and that I was deprived of the assistance of my compass, which had been presented to Foyel. The notes taken at the time were very scanty, and my recollections were confused, inasmuch as I was labouring under a constantly-recurring attack of sickness, which was only kept at bay by resolute endeavours not to give way; but which re-

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guanaco and several ostrich were visible in the plain, and near our halting-place we found the tracks of a puma, for which we searched diligently, but without success.

After securing our horses, as on the previous night, we dined, minus armadillo, off a piece of scraggy meat, and turned in. The salt from the salina was of excellent quality; it was necessary to remove a little of the upper surface, which had slightly deteriorated by exposure to the atmosphere, and then we cut out cakes of salt like pieces of ice, which served for plates. It is a strange fact that both into this and other salinas small rivulets of fresh water flowed, fed by springs in the neighbouring hills.

The next morning (if it could be so called) at the same hour we were in the saddle, and traversing the plain crossed some ridges of moderate height, and continued passing through a tract of country thickly wooded with incense and other bushes. About two P.M. we arrived at a rivulet of water, near which were marks of a recent encampment; after examining these, we came to the conclusion that a week had perhaps elapsed since the occupants had left. We travelled forward at our utmost speed over ground of much the same description, diversified now and again by ranges of low hills, putting up occasionally a partridge, of which birds we observed two different species, one crested, and nearly as large as a hen pheasant and the other smaller than an English bird, and which took only short flights and then cowered—and were fortunate enough to kill a couple. The sun went down behind some hills, and still we found no suitable place to halt in; at last, however, we came to some ponds of water, where we all, being pretty well tired, dismounted, and tethering two of the horses allowed the remainder to go loose. We found the water brackish, though drinkable, but the animals would scarcely touch it, and wandered about, necessitating a watch on them all night; this was rather weary work, especially as a sharp frost came on, and with all our care, at starting-time two horses were missing. After a

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started to hunt, but returned empty-handed. We filled up 484
the skins and water-bottles, in anticipation of entering the 133
travesia the following day; and, after the usual meal and matè, sought out each his own particular nest in the pampa grass, and went to sleep without fear of the horses straying far, the pasture and water being both of the best quality. As it was in this encampment that, according to Casimiro, the defunct Mendoza had discovered gold, I prospected carefully for any signs, but only noticed that parts of the adjoining pampa were strewn, amongst other pebbles, with pieces of quartz. At the usual hour we started to commence the ascent to the travesia, or desert, which rose above us to the north, in a high plateau. On ascending a short distance, we observed on our left hand (to the westward) a [135]
salina of several leagues in length, which bordered the edge of the travesia in about an east or west direction. I am inclined to think that the river Valchita loses itself in this salina. This river is subject to great floods, evidences of which were visible in the drift weeds and rubbish clinging to the bushes and shrubs throughout the valley, evidently left there by the spring inundation. By a gradual ascent we at length reached the level of the plateau, and saw before us an interminable dreary expanse strewn with small shingle, and covered with shrubs varying from four to twelve feet, or even higher, and here and there small tufts of grass. No signs of life were visible. The sky was bright and clear, although clouds were gathering in the southern horizon, and the wind (it nearly always blows in Patagonia) was cutting. I remarked to Luiz Aguirre that it would possibly 521
rain; his reply, 'I hope it will—it will be splendid, then all the lagoons will be full,' told of the danger of drought, but found no assent from me, having had enough of wet weather during the excursion to Las Manzanas. During the ride he told me that he knew the difference between the Catholic and Protestant religions, and of the two he preferred the latter; he also asked me if I had ever been to China, where

133 many havens there, protected by numerous islands and sandbanks. The coast is not as high, but the land is even more barren than that of the [136 312 313] other harbors, there being neither water nor grass, although firewood is not altogether lacking, especially inland. The Indians said that the gulf continues toward the west almost up to the mountains, that some springs flow into it there and that it is impossible to cross the mountains to the other side. They added that there is much espinillo brushwood in the [487] region, going from north to south, through which they have cut paths in order to get through, and should they ever deviate from these paths, they become lost. The southern shores of the gulf, they say, are more arid than the northern, but the fauna is the same as in the others. The [628] Indian chiefs who rule this territory are two brothers, called Chaiguas and Enis.

Puerto Deseado is situated at 47° 48' of southern latitude; it is a good harbor but of difficult entry because of the narrowness of its mouth and the violence of the currents which flow in it. The coast is [312 313] very high and craggy; there is firewood and in the gullies there are some small springs of sweet but slightly brackish water, some 14 in all," which [136] can take care of any need. Game is the same as it was in the other parts; there are innumerable sea lions and seals and an abundance of guanacos. [628] The chief who controls these lands is called Ulquiquenque; he said that the mountain chain is about 20 "sleeps" from the harbor, which must be about 70 leagues, and also that it is impossible to cross over to the other side, that his people have never crossed nor seen other Indians cross the mountains. In this district there is white, black, red and other [135] colored rock, and a little marble in small broken pieces. [66] The [312] earth also is of various colors and the Indians use it to make their paints. [134] *There are also many seals and sea lions on the islands in the haven.*

The harbor of San Julian is located at 49° 21' of southern latitude and is the best on the coast, although the entrance to it is difficult for an unpracticed person because of the bank at its mouth and two others which are inside. The terrain also is the best on the whole coast, not at all rocky and more fertile, as we found out when we were there the three years which the settlement lasted from 1781 to 1784 [sic]. The closest [312] source of water is about a league from the beach, and is made up of some wells filled by the overflow from a spring which lies about a league and a half away. There is ample firewood in all the dells, all of which [313 137] also abound in grass and water, the terrain being made up almost entirely of such gullies, and of stoneless hills. The mountain chain is 70 leagues away toward the west, and at its base there are three cove-like depressions in each of which there is a lake fed by the snow which melts on the mountain tops. I explored this region at the foot of the mountains

It is improbable that these parts
contain metals, because if there were metal here the Indians would have 135
found it and put it to use; and they would naturally have come upon it
at one time or another as they are never in one place very long, changing
from one site to another in order to subsist on the game which, according
to season, moves inland or comes down to the beaches.

The weapons which they use are the bolas and the lasso, and also 411
knives and sabers which they acquire from the Pampas Indians of Buenos [439]
Aires or [79] else make themselves from any piece of iron given them 325
and which they regard highly for this reason. They also sometimes find
iron on the beaches, the remains of wrecked ships. It requires a great
deal of effort on their part to make one of these weapons because, even
though they heat the iron by fire, as they have no tools they can only
avail themselves of stones to beat it into shape then they must grind it
by hand and trim it on the rocks and give it a sharp edge and a point.

In their battles they fight on foot, leaving the women in charge 726
of the horses. They put on garments similar to men's shirts, with tight [714]
sleeves, made out of ten or twelve well-worked deer hides which no
knife or saber can penetrate. They put a sort of hat or helmet upon their
heads made of horse or bullock hide, shielded with which they attempt
to slash the enemies' legs and cut through their boots, they being more
vulnerable there. They are very resolute and persevering in battle and
do not abandon the field once upon it until they are either overpowered
or killed. They also use the bolas, and every person who is overcome is
usually killed because they become so zealous and cruel in battle that
they will not give up. This is why this region is not more thickly popu- [464
lated, for the women are very fecund and few diseases bother them. 842]

From Santa Elena to the Rio Negro the Indians say that the land 133
is parched and waterless and only in the rainy season can a few small
lakes be found. When these are dry they are obliged, when they wish 487
to go to the Rio Negro, to travel inland towards the mountains where
there are springs. As they have to travel uphill far to the west to do this
the distance is three times greater when they wish to come down to the
Spanish settlement, compared to the coastal road, if this latter had water.

The tents are pitched by sticking two poles about two or three 342
yards long into the ground, about four and a half feet from each other;
beside each pole and at an equal distance from it, they thrust two shorter
poles into the ground. To the west of these six they place six shorter ones
at an equal distance, and to the west of these at the same distance, six
others a little more than three feet long. Upon these eighteen poles they
place the hide with the hair outward, and secure it to the upper end of all
of the poles. From each pole they hang, on the inside, as it were curtains
of hide which form the necessary divisions. These curtains are tied to the